

AMENDMENTS TO THE DRAWINGS

The attached sheet of drawings, which includes FIG. 1, replaces the original sheet including FIG. 1.

Attachments: Replacement Sheet (FIG. 1)

REMARKS

Claims 13-27 are pending in this application. Claims 13, 26, and 27 are the independent claims. Claims 13, 18, 19, and 21-25 are amended. Claims 26 and 27 are added. Claims 1-12 were previously cancelled. Reconsideration and allowance of the present application are respectfully requested.

Typographical error

With regard to the 35 U.S.C. § 112, first and second paragraph rejections, the Examiner erroneously identifies the independent claim as claim 1. It is Applicant's belief that the Examiner intended to reject independent claim 13, under 35 U.S.C. § 112, first and second paragraph, and not claim 1, as claim 1 has been previously cancelled.

Objections to the Drawings

The drawings are objected to under 37 C.F.R. 1.83(a) because they do not show "the flange 17 and element 3" as described in the specification. Applicant amends FIG. 1 to include the character number "17" on FIG. 1 (identifying "flange 17"). With regard to reference character "3," Applicant submits that this reference character is not described in the specification or included in any of the drawings. Therefore, Applicant does not believe that reference character "3" needs to be described in the specification. Based on a review of the specification and drawings, in light of the amendment to FIG. 1, Applicant believes that the drawings comply with 37 CFR 1.83(a). Therefore, Applicant respectfully requests that the Examiner remove this objection of the drawings.

Rejections under 35 U.S.C. §112

Claim 13 stands rejected under 35 USC §112, first paragraph, as failing to comply with the written description requirement. This rejection is respectfully traversed.

The Examiner rejects the limitation “the adjustable connecting means are fixedly connected to the other shaped part on one side and to the slide element on the other.” Applicant amends claim 1 to clarify that the “adjustable connection means” includes the elements of a “horizontal adjusting screw,” a “vertical adjusting screw,” and a “coupling piece,” as defined by the limitations of amended claim 13. Applicant believes that these positively recited elements of the “adjustable connection means” are clearly identified in the drawings and adequately described in the written disclosure in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. Therefore, Applicant respectfully requests that the rejections of this claim under 35 U.S.C. §112 be withdrawn.

Rejections under 35 U.S.C. §112

Claims 13, 19, and 22-25 stand rejected under 35 USC §112, second paragraph, as being indefinite. This rejection is respectfully traversed.

With regard to independent claim 13, the Examiner rejects the claim limitation “connected by means of a connecting piece,” as the Examiner asserts that this limitation renders the claim vague and indefinite as it is unclear whether this limitation is a second connecting piece or not. Applicant amends independent claim

13 to clarify that the element of a “coupling piece” is a subcomponent of the recited element of an “adjustable connection means.” Therefore, Applicant believes that independent claim 13 now clarifies that a second connecting piece, different from the recited “coupling piece,” is not being claimed.

With regard to dependent claim 22, the Examiner asserts that the claim limitation “of the one shaped part relative to the other co-acts on one outer end” renders the claim vague and indefinite. Specifically, the Examiner indicates that it is not certain what “other shaped part” Applicant refers to in this limitation. Applicant amends claim 22 by removing the rejected claim limitation.

With regard to dependent claims 23-24, the Examiner rejects the claim limitation “the connecting piece,” as the Examiner asserts that it is unclear whether this is a second connecting piece. Applicant amends claims 23 and 24 to recite “said coupling piece,” in order to clarify that the claims are further limiting the “coupling piece” recited in independent claim 13.

With regard to dependent claim 25, the Examiner rejects the claim limitation “the adjustable connection means for the upwardly/downwardly adjustment,” as the Examiner asserts that it is unclear whether this limitation introduces a separate connection means for the upward/downward connection means which is separate from the connection means for the forward/backward adjustment. Applicant amends dependent claim 25 to further limit “the vertical adjusting screw,” as recited in independent claim 13 (the “vertical adjusting screw,” positively introduced in independent claim 13, is a subcomponent of the recited limitation “adjustable connection means”).

Applicant believes that all of claims 13, 19, and 22-25 are definite as they particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Therefore, Applicant respectfully requests that the rejections of these claims under 35 U.S.C. §112 be withdrawn.

Rejections under 35 U.S.C. §103 – Halstrom in view of Toone

Claims 13, 14, 17, and 21-25 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 5,868,138 (“Halstrom”) in view of U.S. Patent 4,901,737 (“Toone”). This rejection is respectfully traversed.

With regard to independent claim 13, the Examiner asserts that Halstrom discloses all of the claim limitations with the exception that Halstrom does not teach an adjustable connection means including a horizontal adjusting screw for forward/backward adjustment of the one shaped part relative to the other, the screw being connected by means of a connecting piece with the adjustable connection means for the upward/downward adjustment. The Examiner asserts that Toone discloses these missing limitations. The Examiner asserts that it would have been obvious to a person of ordinary skill in the art to modify the connecting means of Halstrom to have a horizontal screw for forward/backward adjustment of the one shaped part relative to the other, the screw being connected by means of a connecting piece with the adjustable connection means for the upward/downward adjustment as taught by Toone. Applicant asserts that Halstrom in view of Toone does not teach or suggest “the at least one adjustable connection means includes a horizontal adjusting screw for forward/backward adjustment of said one shaped part relative to said other shaped part, a vertical adjusting screw for the upward/downward adjustment of said one

shaped part relative to said other shaped part," as recited in claim 13, and a person of ordinary skill in the art would not be motivated to combine Halstrom and Toone in the manner asserted by the Examiner.

With regard to Halstrom, Appellant draws the Examiner's attention to at least FIGS. 3 and 7 which disclose stylus 46, one end of stylus 46 being able to screw into aperture 68 on the maxillary portion of the dental appliance (the selection of various apertures 68 being used to adjust the forward/backward position of the mandibular portion 32) and the other end of stylus 46 fitting through aperture 52 of guidebox 50 to anchor the mandible portion (the depth with which stylus 46 is screwed into aperture 68 causing upward/downward adjustment of the mandibular portion 32). Applicant asserts (and the Examiner appears to agree) that Halstrom does not teach or suggest "a horizontal adjusting screw for forward/backward adjustment of said one shaped part relative to said other shaped part," as recited in claim 13. Rather, Halstrom only discloses various apertures 68 which allow insertion of stylus 46, the selection of a particular aperture allowing for the forward/backward adjustment of the mandible portion of the dental appliance.

Applicant asserts that a review of Toone indicates that Toone does not remedy the deficiencies of Halstrom. Specifically, Toone discloses an entirely alternative design of a horizontal adjustment screw 50 for the simultaneous adjustment of the inferior (upward / downward) / anterior (frontward / backward) position of the mandible portion. As shown in FIGS. 9A and 9B of Toone, threaded adjustment rod 50 (the asserted "horizontal adjusting screw") is provided on both sides (both spacer assembly 21, and spacer assembly 22, as shown in at least FIG. 5) of the dental appliance, the adjustment rod 50 being received in threaded bore 52 to simultaneously

adjust the inferior / anterior position of the mandible portion, as described in column 10, lines 30-66. In column 10, lines 47-51, Toone explains the importance of this simultaneous adjustment, as adjustment rod 50 ensures that the anterior/inferior position of the mandible portions remains at a ratio of 1/5 throughout the full range of adjustment for the device. Therefore, Applicant asserts that Toone does not disclose “a horizontal adjusting screw for forward/backward adjustment of said one shaped part relative to said other shaped part,” as recited in claim 13. Rather, Toone discloses an adjustment rod 50 that simultaneously adjusts the upwards/downward and forward/backward position of the mandible portion. Therefore, Applicant asserts that Toone is not combinable with Halstrom, as the adjustment rod 50 of Toone is an alternative embodiment to the embodiments shown in Halstrom, as adjustment rod 50 only allows for the combined forward/backward and upward/downward adjustment of the mandibular portion. For these reasons, Applicant asserts that a person of ordinary skill in the art would not at all be motivated to combine Halstrom and Toone in order to teach or suggest an adjustable connection means that includes “a horizontal adjusting screw for forward/backward adjustment of said one shaped part relative to said other shaped part” and “a vertical adjusting screw for the upward/downward adjustment of said one shaped part relative to said other shaped part,” as recited in claim 13, in the manner asserted by the Examiner. Rather, Applicant asserts that a person of ordinary skill in the art would only be motivated to use the Toone embodiment in lieu of the Halstrom embodiment, as the embodiments of the two references are entirely alternative designs of each other.

Applicant further asserts that because Toone discloses an adjustment rod 50 located on both sides of the dental appliance (located in both spacer assembly 21, and

spacer assembly 22, as shown in FIG. 5), Applicant therefore further asserts that Toone is not combinable with Halstrom. Specifically, Applicant asserts that the adjustment rod 50 of Toone is to be located within threaded bore 52 which runs the length of each spacer assembly 21/22 (and, is structurally supported by the spacer assemblies 21/22). By removing the adjustment rod 50 from spacer assemblies 21/22, and instead placing adjustment rod 50 in the dental appliance of Halstrom, the adjustment rod 50 would not be structurally supported by a threaded bore (as provided in Toone), as the “adjustable connecting means” 40 of Halstrom is located in the center of the dental appliance. For this additional reason, Applicant asserts that any possible combination of Halstrom and Toone does not teach or suggest an adjustable connection means that includes “a horizontal adjusting screw for forward/backward adjustment of said one shaped part relative to said other shaped part” and “a vertical adjusting screw for the upward/downward adjustment of said one shaped part relative to said other shaped part,” as recited in claim 13.

Applicant further asserts that because neither Halstrom, nor Toone disclose an adjustable connection means with both a “horizontal adjusting screw” and a “vertical adjusting screw,” neither reference therefore teaches or suggests (or even has reason to contemplate) “a coupling piece for coupling said horizontal adjusting screw with said vertical adjusting screw,” as recited in claim 13.

Applicant further asserts that Halstrom in view of Toone does not teach or suggest “the at least one adjustable connecting means has a first end and a second end, said first end being fixedly connected to the front side of the other shaped part of said upper and lower shaped parts, such that said first end is in front of the teeth when said other shaped part is placed in the mouth,” as recited in claim 13. Because

neither Halstrom, nor Toone, disclose an adjustable connection means with both a “horizontal adjusting screw” and a “vertical adjusting screw,” neither of the references therefore teach or suggest (or even contemplate) a compact design providing an adjustment means that independently make forward/backward and upward/downward adjustments of a dental appliance. Therefore, Applicant asserts that neither Halstrom, nor Toone, teach or suggest an adjustable connection means with a first end “fixedly connected to the front side of the other shaped part,” as recited in claim 13.

With regard to dependent claim 21, Applicant asserts that neither Halstrom, nor Toone, either singly or in combination with each other, teach or suggest “wherein said vertical adjusting screw has a first and second outer end, said first outer end co-acting with a threaded bore provided on the front side of said other shaped part, and said second outer end being integrated with the coupling piece,” as recited in claim 21. With regard to Halstrom, Applicant submits that Halstrom's vertical adjusting screw extends between the bottom sides of the upper and lower shaped parts, and the vertical adjusting screw of Halstrom does not co-act with a threaded bore on a front side of one of the shaped parts such that the vertical adjusting screw would otherwise extend in front of the teeth when the shaped parts are placed in a user's mouth. Further, the outer end of the vertical adjusting screw of Halstrom is not integrated with a coupling piece for coupling the vertical adjusting screw with a horizontal adjusting screw. Applicant asserts that a review of Toone indicates that Toone does not remedy these deficiencies of Halstrom. Therefore, Applicant asserts that Halstrom in view of Toone does not teach or suggest all of the limitations of claim 21.

With regard to dependent claim 23, Applicant asserts that neither Halstrom, nor Toone, either singly or in combination with each other, teach or suggest “wherein the threaded passage is provided in the slide element and the horizontal adjusting screw is provided on its second outer end with a screw head, said coupling piece being provided with a horizontally oriented hole through which the horizontal adjusting screw extends,” as recited in claim 23. While the Examiner cites column 8, lines 50-52 of Halstrom which disclose that many alterations and modifications are possible in the practice of the invention, Applicant submits that this paragraph of Halstrom only provides examples of a connection assembly 40 that may be positioned in a posterior position, as opposed to the anterior position as shown in the embodiment of FIG. 3. The paragraph further states that equivalent means of coupling stylus 46 to lower bite block 32 may also be envisioned. However, Halstrom does not disclose a “horizontal adjusting screw,” at all, and therefore Halstrom does not teach or suggest, or even contemplate the use of a “threaded passage” in a coupling piece for a horizontal adjusting screw. Applicant asserts that a review of Toone indicates that Toone does not remedy these deficiencies of Halstrom, as Toone does not at all disclose a “slide element.” Applicant further asserts that because neither Halstrom nor Toone disclose a “coupling piece,” at all, Applicant therefore asserts that neither of these references disclose a “horizontally oriented hole” in the coupling piece.

With regard to claim 24, Applicant asserts that claim 24 contains features similar to claim 23 such that at least the same arguments can be made.

For at least the reasons stated above related to independent claim 13 and dependent claims 21, 23, and 24, Applicant asserts that these claims are patentable. Due at least to the dependence of claims 14, 17, 22, and 25, Applicant also asserts

that these claims are patentable. Therefore, Applicant respectfully requests that this art ground of rejection of these claims under 35 U.S.C. §103 be withdrawn.

Rejections under 35 U.S.C. §103 – Halstrom in view of Toone and Lowe

Claims 15, 16, 19, and 20 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Halstrom in view of Toone and further in view of U.S. Patent 5,409,017 (“Lowe”). This rejection is respectfully traversed.

The Examiner uses Lowe to teach a mandible repositioning appliance for treatment of snoring and sleep apnea, the device having a guide element which is a rod mounted between two points of one of the shaped parts, and the slide element is a hollow tube slideable around the rod. With regard to independent claim 13, Applicant asserts that claim 13 is patentable over Halstrom in view of Toone for at least the reasons stated above. Applicant assert that a review of Lowe indicates that Lowe does not remedy the deficiencies of Halstrom in view of Toone.

For at least the reasons stated above related to independent claim 13, Applicant asserts that this claim is patentable. Due at least to the dependence of claims 15, 16, 19, and 20 on claim 13, Applicant also asserts that these claims are patentable. Therefore, Applicant respectfully requests that this art ground of rejection of these claims under 35 U.S.C. §103 be withdrawn.

New Claims

Applicant adds new claims 26 and 27. Applicant asserts that claims 26 and 27 contain features similar to independent claim 13 such that at least the same arguments can be made. Additionally, Applicant asserts that the limitations of “said

horizontal screw having a first outer end and a second outer end, said first outer end being coupled with the sliding element, and said second outer end being coupled with said coupling piece, - said vertical screw having a first and a second outer end, said first outer end being connected with the front of the other shaped part of said upper and lower shaped parts, and said second outer end being connected with the coupling piece," as recited in claim 26, also are not disclosed or fairly suggested in either Halstrom or Toone. Additionally, Applicant asserts that the limitations of "- said horizontal screw having a first outer end and a second outer end, said first outer end being coupled with the sliding element, and said second outer end being coupled with said coupling piece, - said vertical screw having a first and a second outer end, said first outer end co-acting with a threaded bore provided on the front side of the other shaped part of said upper and lower shaped parts, and said second outer end being connected with the coupling piece, wherein said first outer end is in front of the teeth when said upper and lower shaped parts are placed in the user's mouth," as recited in claim 27, also are not disclosed or fairly suggested in either Halstrom or Toone.

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CONCLUSION

In view of the above remarks and amendments, Applicant respectfully submits that each of the rejections has been addressed and overcome, placing the present application in condition for allowance. A notice to that effect is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to contact the undersigned.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact the undersigned at the telephone number below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

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